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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,977	01/31/2002	Carlos Alonso	112-0014US	2829
29855	7590	05/22/2006	EXAMINER	
WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, P.C. 20333 SH 249 SUITE 600 HOUSTON, TX 77070			SOL, ANTHONY M	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

RD

Office Action Summary	Application No. 10/062,977	Applicant(s) ALONSO ET AL.	
	Examiner Anthony Sol	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 3/13/2006 is acknowledged.
- Claims 1, 2, 4, 8, 12, 13, 15, 18, 19, 27, 32, 33, 35, and 39 have been amended.
- No claims have been amended.
- No claims have been added.
- Claims 1-39 remain pending.

1. It is regrettable that the indicated allowability of claims 2-4, 7, 13-15, 17, 20-23, 25, 26, 28-30, 33-35, and 38 of the non-final Office Action mailed 12/9/2005 is withdrawn in view of the newly discovered reference to Iwata. Rejections based on the newly cited reference follow.

Claim Objections

2. Claim 2 is objected to because of the following informalities:
- For claim 2, line 9, it is believed the Applicant meant to state --containing a topology and characteristics for at least one **switching** element in the second switching --.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6, 8, 16, 18, 37 and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 6, 16, and 37,

It is not clear what is meant by “first and second interfaces are either of in-band or out-of-band.” For example, what is an interface that is of in-band? Is the Applicant intending to claim interfaces that communicate in in-band or out-of-band signaling? If so, the claim should be revised to clearly describe the interfaces’ function (e.g. communicate) and how the function relates to in-band and out-of-band (e.g. signaling).

5. Regarding claims 8, 18, and 39,

It is not clear what is meant by “first and second interfaces are in-band and said interconnection link is out-of-band.” For example, what is an interface that is in-band? Is the Applicant intending to claim interfaces and interconnection link that communicate in in-band or out-of-band signaling? If so, the claim should be revised to clearly describe the interfaces’ and link’s function (e.g. communicate) and how the function relates to in-band and out-of-band (e.g. signaling).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1- 4, 6-23, 25, 27-30, 32-35, 37-39 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,993,593 B2 ("Iwata").

It should be noted in referring to Iwata's Fig. 2, that the Examiner has interpreted ASBR-A1 142 and ASBR-B1 143, collectively, to be equivalent to the Applicant's claimed inter-fabric service device similar to the Applicant's third embodiment shown in Fig. 4 of the Applicant's drawings where Adjunct Processor (1) and Adjunct Processor (2), collectively, comprise an inter-fabric service system/device.

Regarding claim 1,

Iwata shows in Fig. 2, E-BGP 121 (claim – first interface) adapted to transmit and receive path routing information (claim - fabric management data) from Autonomous System A / AS-A 190 (claim – first independent switch fabric)(col. 12, lines 19-26).

Iwata further shows in Fig. 2, E-BGP 122 (claim – second interface) adapted to transmit and receive path routing information (claim - fabric management data) from

Autonomous System B / AS-B 192 (claim – second independent switch fabric)(col. 12, lines 19-26).

Iwata discloses that E-BGP unit 121 (claim – first interface), which is connected to E-BGP unit 122 (claim – second interface), on the AS border router 142 notifies the AS path information for reaching the destination router 145 in the AS-B 192 to the I-BGP unit 110 via I-BGP unit 111. Additionally, the transmission router 140 obtains AS path information also from other AS border routers 211 and 21 (Fig. 3). Based on these information, the OSPF-TE units 102 and 103 of ASBR-A1 and ASBR-B1 143, respectively (claim – inter-fabric adjunct processor), along with OSPF-TE units 100, 101, 104, and 105, can calculate an optimum path (claim – analyze and respond) from an arbitrary router to an arbitrary router (col. 12, lines 41- 65).

8. Regarding claims 2, 13, 20, and 33,

Iwata discloses that OSPF-TE unit 102 (claim – processing unit) of Fig. 2 find the entire topology and link information (claim – first fabric map) of AS-A 190 by distributively exchanging topology of connectivity of routers in the AS-A 190 (claim – first switching fabric) and QoS parameters (claim – topology and characteristics) and based on these information, the OSPF-TE can calculate an optimum path from one arbitrary router to another arbitrary router (claim – one switching element).

Similarly, Iwata discloses OSPF-TE 103 (claim – processing unit) find the entire topology and link information of AS-B 192 (claim - second fabric map) to calculate an optimum path from one router to another (claim – one switching element)(claim –

processing unit to analyze the fabric management data from first and second switching fabric; col. 12, lines 58-67 to col. 13, lines 1-8;).

9. Regarding claims 3, 14, 21, and 34,

Iwata discloses that the OSPF-TE unit 100 is employed for dynamic routing information exchange procedure and the I-BGP unit 110 is employed for obtaining BGP-TE information as a dynamic routing information procedure (col. 11, lines 52-49).

Iwata further discloses that the server resource monitor procedure 612 (Fig. 11) can periodically conduct polling with respect to server resource monitor procedures (col. 17, lines 10-19).

10. Regarding claims 4, 15, and 35,

The subject matter concerning the processing unit was substantially discussed in the rejection to claim 2.

Additionally, Iwata shows in Fig. 2 End-to-end Path Selection Unit 132 (claim – system management control module) coupled to OSPF-TE 100 (claim - processing unit) for searching for an optimum interdomain path (col. 11, lines 50-54).

11. Regarding claims 6, 16, and 37,

It is inherent that first or second interfaces are either of in-band or out-of-band because data must be transmitted in one band or the other.

12. Regarding claims 7, 17, and 38,

Iwata shows in Fig. 2, OSPF-TE 102 (claim – first embedded adjunct processor) in ASBR-A1 142 in AS-A 190 (claim – first independent switching fabric).

Iwata further shows in Fig. 2, OSPF-TE 103 (claim – second embedded adjunct processor) in ASBR-B1 143 in AS-B 192 (claim – second independent switching fabric).

Iwata still further shows in Fig. 2, link 191 (claim – interconnection link) between OSPF-TE 102 and OSPF-TE 103.

13. Regarding claims 8, 18, and 39,

Whether first and second interfaces and interconnection link communicate in either in-band or out-of-band signaling is a matter of design efficiency depending on the system. Furthermore, the system of Iwata is capable of communicating at any of the links in either in-band or out-of-band signaling.

14. Regarding claim 9,

Iwata shows in Fig. 2, ASBR-A1 142 and ASBR-B1 143 (claim - inter-fabric service device) coupled to AS-A 190 (claim – first independent switch fabric) and AS-B 192 (claim – second independent switch fabric) adapted to provide path selection in an interdomain network taking network resources such as bandwidth and delay into consideration *end-to-end* (claim – manage as a single entity; col. 3, lines 56-60).

Iwata shows in Fig. 2, I-BGP 110 (claim – first interface services agent) coupled to ASBR-A1 142 (claim – inter-fabric services device) and operating on transmission

router 140 (claim – first switching element) in the AS_A 190 (claim – first switching fabric), said I-BGP 110 (claim – first inter-fabric services agent) adapted to communicate with said ASBR-A1 142 (claim - inter-fabric services device).

Iwata shows in Fig. 2, I-BGP 113 (claim – second interface services agent) coupled to ASBR-B1 143 (claim – inter-fabric services device) and operating on destination router 145 (claim – second switching element) in the AS-B 192 (claim – second switching fabric), said I-BGP 113 (claim – second inter-fabric services agent) adapted to communicate with said ASBR-B1 (claim - inter-fabric services device).

15. Regarding claim 10,

Iwata shows in Fig. 2, ASBR-B1 143 (claim - second inter-fabric services device) coupled to the AS-A 190 (claim - first switching fabric) and AS-B 192 (claim - the second switching fabric), said ASBR-B1 143 (claim - second inter-fabric services device) adapted to provide a redundant inter-fabric service link. Iwata's system is capable of duplicating inter-fabric links by providing another set of ASBR-A1 and ASBR-B1.

16. Regarding claim 11,

Iwata shows in Fig. 2, ASBR-A1 142 and ASBR-B1 143 (claim – inter-fabric services device) and E-BGP 121 and E-BGP 122 (first and second inter-fabric services agents) communicate and register in BGP/Border Gateway Protocol 191 (claim – unique protocol).

17. Regarding claim 12,

The subject matter of this claim was addressed in the rejection to claim 1.

18. Regarding claim 19,

Iwata shows in Fig. 2, adapted to transmit and receive path routing information (claim – receiving fabric management data) at the E-BGP 121 (claim - first interface) of ASBR-A1 142 and ASBR-B1 143 (claim - the inter-fabric service link) from at least one transmission router 140 (claim - switching element) in AS-A 190 (claim - first switching fabric).

Iwata shows in Fig. 2, adapted to transmit and receive path routing information (claim – receiving fabric management data) at the E-BGP 122 (claim - second interface) of ASBR-A1 142 and ASBR-B1 143 (claim - the inter-fabric service link) from at least one destination router 145 (claim - switching element) in AS-B 192 (claim - second switching fabric).

Iwata discloses that E-BGP unit 121 (claim – first interface), which is connected to E-BGP unit 122 (claim – second interface), on the AS border router 142 notifies the AS path information for reaching the destination router 145 in the AS-B 192 to the I-BGP unit 110 via I-BGP unit 111. Additionally, the transmission router 140 obtains AS path information also from other AS border routers 211 and 212 (Fig. 3). Based on these information, the OSPF-TE unit 100, 101 and 102 can calculate an optimum path (claim – analyzing the fabric management data) from an arbitrary router to an arbitrary

router (claim – coordinating the management of the first and second switching fabrics) (col. 12, lines 41- 65).

19. Regarding claims 22 and 23,

Iwata shows in Fig. 2, ASBR-A1 142 and ASBR-B1 143 (claim - inter-fabric service device) coupled to AS-A 190 (claim – first independent switch fabric) and AS-B 192 (claim – second independent switch fabric) adapted to provide path selection in an interdomain network taking network resources such as bandwidth and delay into consideration *end-to-end* (claim – manage as a single entity; col. 3, lines 56-60).

20. Regarding claim 25,

Iwata shows in Fig. 2, coupling transmission router 140 in AS-A 190 (claim – first switching fabric) to ASBR-A1 142 and ASBR-B1 143 (claim - inter-fabric service link).

Iwata shows in Fig. 2, coupling destination router 145 in AS-B 192 (claim – second switching fabric) to ASBR-A1 142 and ASBR-B1 143 (claim - inter-fabric service link).

Iwata shows in Fig. 2, transmission router 140 (claim – switching element) in AS-A 190 (claim - first switching fabric). Iwata discloses that OSPF-TE unit 102 (claim -first fabric map) of Fig. 2 find the entire topology and link information, including information on transmission router 140 (col. 12, lines 58-65).

Iwata shows in Fig. 2, destination router 145 (claim – switching element) in AS-B 192 (claim – second switching fabric). Iwata discloses that OSPF-TE unit 103 (claim

– second fabric map) of Fig. 2 find the entire topology and link information including information on destination router 145 (col. 12, lines 65-67).

21. Regarding claim 27,

Iwata shows in Fig. 2, means for receiving and transmitting fabric management data between AS-A 190 (claim - first switching fabric) and ASBR-A1 142 (claim - inter-fabric service link). Specifically, concerning fabric management data, Iwata discloses E-BGP 121 within ASBR-A1 142 is adapted to transmit and receive path routing information (claim - fabric management data) from AS-A 190 (col. 12, lines 19-26).

Iwata shows in Fig. 2, means for receiving and transmitting fabric management data between AS-B 192 (claim – second switching fabric) and ASBR-B1 143 (claim – inter-fabric service link). Specifically, concerning fabric management data, Iwata discloses E-BGP 122 within ASBR-B1 143 is adapted to transmit and receive path routing information (claim - fabric management data) from AS-B 192 (col. 12, lines 19-26).

Iwata discloses that OSPF-TE units 100, 101 and 102 and OSPF-TE units 102, 103 and 104 (claim – means for processing) of Fig. 2 find the entire topology and link information of AS-A 190 (claim – first switching fabric) and AS-B 192 (claim – second switching fabric) by distributively exchanging topology of connectivity of routers in the AS-A 190 and QoS parameters and based on these information, the OSPF-TE can calculate an optimum path from one arbitrary router to another arbitrary router (claim – means for processing the fabric management data from the first and second switching

fabrics; claim – means for coordinating the management of the first and second switching fabrics).

22. Regarding claim 28,

The subject matter of this claim was addressed in the rejection to claim 2.

23. Regarding claim 29,

The subject matter of this claim was addressed in the rejection to claim 3.

24. Regarding claim 30,

The subject matter of this claim was addressed in the rejection to claim 4.

25. Regarding claim 32,

Iwata shows in Fig. 2, AS-A 190 (claim - first independent switching fabric) including transmission router 140 (claim - at least one switching element).

Iwata further shows in Fig. 2, AS-B 192 (claim - second independent switching fabric) including destination router 145 (claim - at least one switching element).

Iwata still further shows in Fig. 2, E-BGP 121 (claim – first interface) adapted to transmit and receive path routing information (claim - fabric management data) from AS-A 190 (claim – first independent switch fabric)(col. 12, lines 19-26).

Iwata still further shows in Fig. 2, E-BGP 122 (claim – second interface) adapted to transmit and receive path routing information (claim - fabric management data) from AS-B 192 (claim – second independent switch fabric)(col. 12, lines 19-26).

Iwata discloses that E-BGP unit 121 (claim – first interface), which is connected to E-BGP unit 122 (claim – second interface), on the AS border router 142 notifies the AS path information for reaching the destination router 145 in the AS-B 192 to the I-BGP unit 110 via I-BGP unit 111. Additionally, the transmission router 140 obtains AS path information also from other AS border routers 211 and 21 (Fig. 3). Based on these information, the OSPF-TE units 102 and 103 of ASBR-A1 and ASBR-B1 143, respectively (claim – inter-fabric adjunct processor), along with OSPF-TE units 100, 101, 104, and 105, can calculate an optimum path (claim – analyze and respond) from an arbitrary router to an arbitrary router (col. 12, lines 41- 65).

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 5, 24, 26, 31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata in view of U.S. Patent No. 6,944,152 B1 ("Heil").

Regarding claims 5, 24, 26, 31, and 36,

Iwata shows in Fig. 11, servers 620, 621, and 622 in a switching fabric.

Iwata does not show that the servers operate in a Fibre Channel SAN.

Heil shows in Fig. 5 links 198, which are Fibre Channel host ports (col. 9, lines 4-6).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the switching fabric of Iwata so that the servers are connected to Fibre Channel storage as taught by Heil. One skilled in the art would have been motivated to make the modification for high-speed communication.

Response to Arguments

- Please see paragraph 1 above concerning withdraw of allowability of claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US6711171B1 (Dobbins) teaches distributed connection-oriented services for switched communications networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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5/18/2006


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